

Mechanized Testing Nuclear



Full vessel inspection PWR, BWR and nozzles

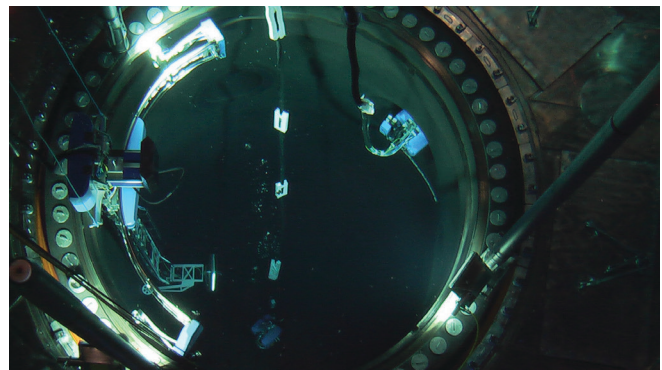
DEKRA Industrial – Mechanized Inspection has developed scanners and manipulators for the inspection of the RPV Shell Welds, Nozzle Welds and BMI Welds (Bottom Mounted Instrumentation nozzles) for PWRs as well as for BWRs.

All manipulators have been designed to minimize the inspection time in the reactor containment. The equipment can be prepared in only one shift for a full vessel examination. Furthermore, the equipment will work in parallel totally independent of each other and with minimum support from the crane and service bridge. No pre-installation in the vessel is needed.

The main principle with all equipment is to make them neutral buoyant in water and also to use thrusters for independent movement.

DEKRA cover all needs for development of manipulators and NDT, as well as probe design. All equipment was tested at a test facility before the first outage performance.

Excellent customer response has been achieved of the inspection preparation, qualification and performance on site.



Three inspection tools working in parallel at Ringhals 4 PWR



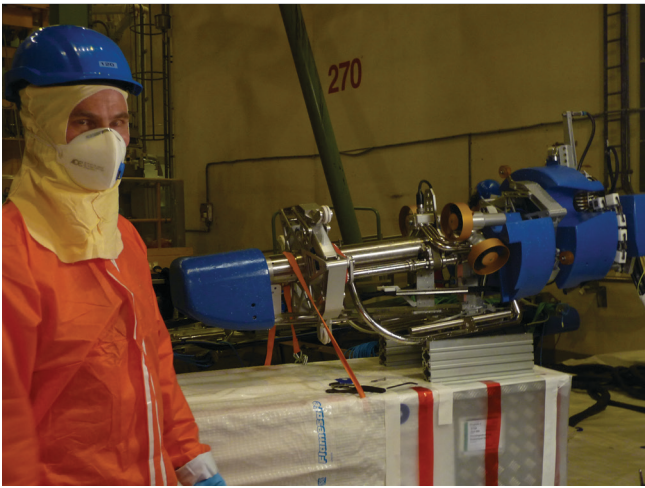
Ringhorne inspection at BWR

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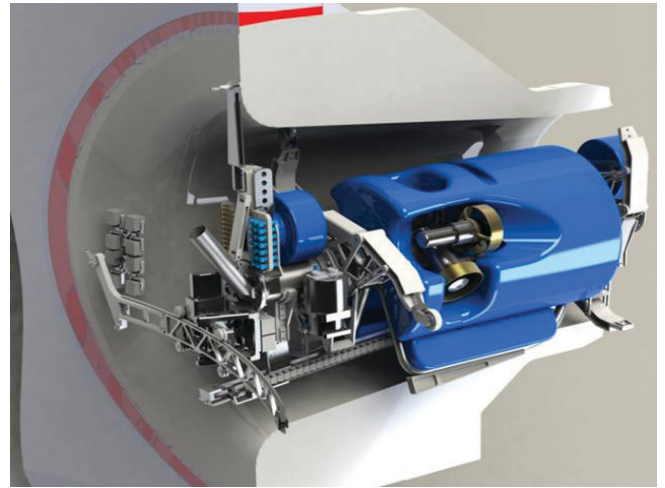
With reservations for errors and changes.

DEKRA - Global partner for a safe world

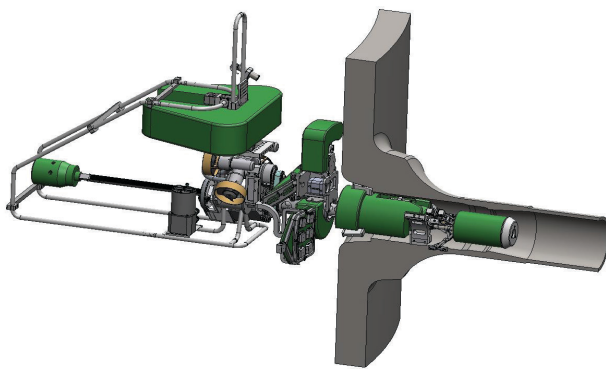
DEKRA is working for increased safety in a variety of industries through independent inspection, testing and certification. DEKRA is Europe's leading expert organization with 44 000 employees in 60 countries.



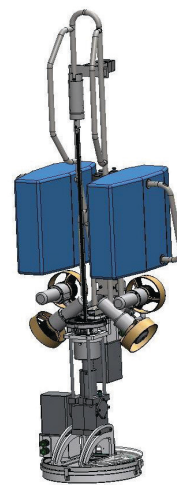
The Särinner nozzle tool during set up



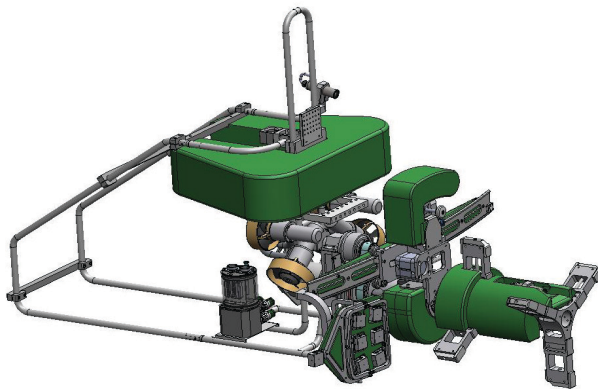
The Särinner tool in PWR nozzle



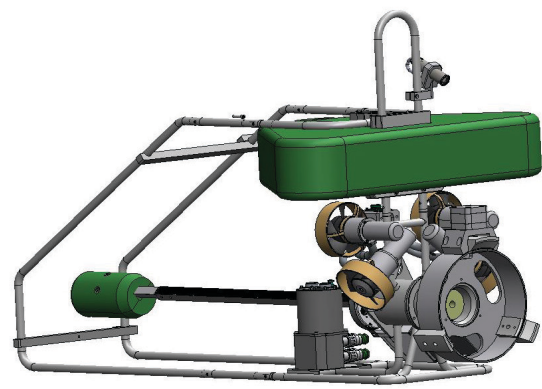
Manipulator GRAM, Configuration for Feed Water Nozzle BWR



The bottom nozzle tool Gungner



Manipulator GRAM, Steam Outlet Nozzle BWR



Manipulator GRAM, Safety Injection Nozzle PWR